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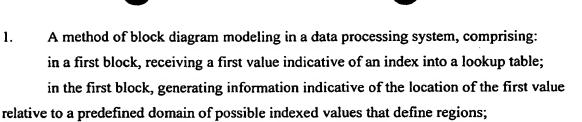
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in a second block, receiving the information generated by the first block; and using the information received in the second block to determine an output value of a first lookup table.

- 2. The method of claim 1, wherein the generated information comprises information 1 identifying a region of the predefined domain within which the first value falls. 2
- 3. The method of claim 2, wherein the generated information further comprises 1 information identifying a position of the first value within the identified segment. 2

second lookup table different from the first lookup table.

- 4. The method of claim 1, further comprising: in a third block different from the second block, receiving the information generated by the first block; and using the information received in the third block to determine an output value of a
- 5. The method of claim 1, further comprising: in a fourth block, receiving a second value indicative of an index into a lookup table; in the fourth block, generating information indicative of the location of the second value relative to a predefined domain of possible index values;

in the second block, receiving the information generated by the fourth block; and using the information received in the second block from the first block and the fourth block to determine an output value of the first lookup table.

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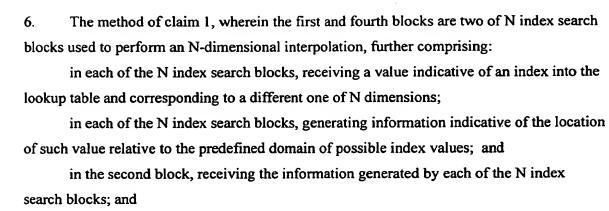
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using the information received in the second block to determine an output value of the first lookup table.

- 7. The method of claim 1, wherein determining an output value of the first lookup table comprises using the information received in the second block to interpolate values in a lookup table.
- 8. The method of claim 1, further comprising:

 maintaining in a block library a pre-lookup index search block and an interpolation block that uses output of the pre-lookup index search block for interpolated table lookup; and instantiating the index search block to create the first block and instantiating the interpolation block to create the second block.
- 9. The method of claim 8, further comprising:
- 2 receiving parameters from a user to instantiate the pre-lookup index search block and 3 the interpolation block.
- 1 10. The method of claim 9, wherein receiving comprises providing the user with a dialog
- 2 box having fields for specifying values of the parameters for the pre-lookup index search
- 3 block.
- 1 11. The method of claim 9, wherein receiving comprises providing the user with a textual
- 2 API for programmatically specifying values of the parameters.

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- 3 12. The method of claim 10, wherein the parameters for the pre-lookup index search
- 4 block comprise breakpoint data.
- 1 13. The method of claim 9, wherein receiving comprises providing the user with a dialog
- 2 box having fields for specifying values of the parameters for the interpolation block.
- 1 14. The method of claim 13, wherein the parameters for the interpolation block comprise
- 2 table data.
- 1 15. The method of claim 6, wherein the generated information comprises a breakpoint
- data set index value and a distance fraction value for each dimension and corresponding input
- 3 value chosen by the user.
 - 16. The method of claim 1, comprising:

using the graphical block diagram of the graphical block diagram model as a specification for interpretation by automatic code generation software that generates code to perform computations equivalent to computations performed by the graphical block diagram model.

- 17. A method of graphical block diagram processing, comprising;
- receiving as an input a block diagram model that includes interpolation lookup blocks which each perform index search operations and interpolated table lookup;
- detecting if the interpolation lookup blocks have shared input values and breakpoint data sets; and
- interpreting the block diagram model as if the block diagram model included separate index search blocks and interpolated lookup blocks.
- 1 18. The method of claim 17, further comprising using the interpreted graphical block
- 2 diagram by automatic code generation software that generates code to perform computations
- 3 equivalent to computations performed by the graphical block diagram model.

value of a first lookup table.

1	19.	A method of graphical block diagram processing, comprising:	
2		maintaining in a block library an index search block and an interpolation block that	
3	uses	uses output of one or more pre-lookup index search blocks; and	
4		enabling a user to use the pre-lookup index search and interpolation blocks to build a	
5	graph	graphical block diagram model.	
1	20.	A computer program product residing on a computer-readable medium for block	
2	diagr	diagram modeling, the computer program product comprising instructions causing a	
3	comp	computer to:	
4		in a first block, receive a first value indicative of an index into a lookup table;	
5		in the first block, generate information indicative of the location of the first value	
6	relative to a predefined domain of possible indexed values;		
7		in a second block, receive the information generated by the first block; and	
8		use the information received in the second block to determine an output value of a	
9	first lookup table.		
1	21.	A computer system comprising:	
2		in a first block, means for receiving a first value indicative of an index into a lookup	
3	table		
4		in the first block, means for generating information indicative of the location of the	
5	first v	first value relative to a predefined domain of possible indexed values;	
6		in a second block, means for receiving the information generated by the first block;	
7	and		

means for using the information received in the second block to determine an output